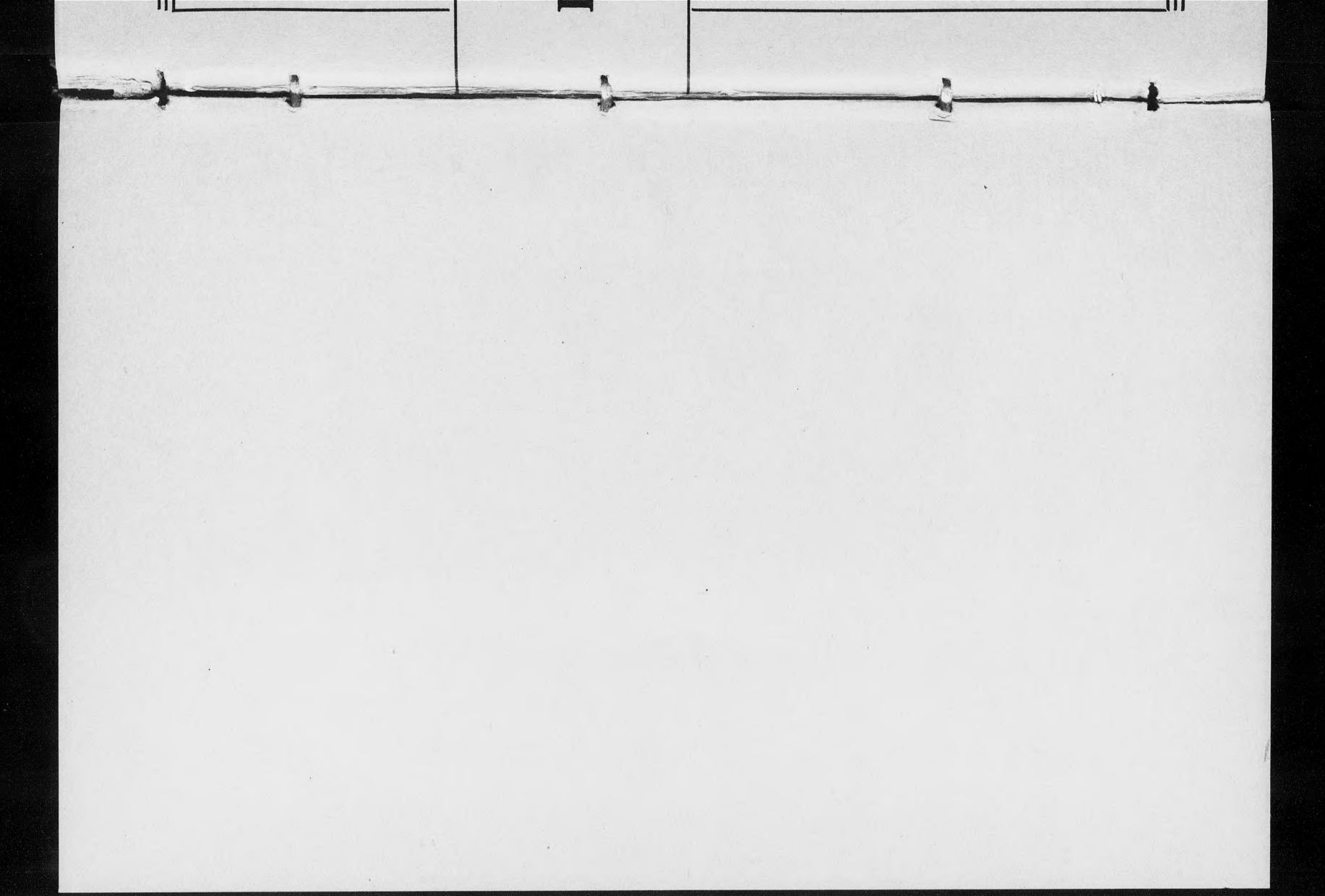

August Issue 1940 No. 175 - Control Series — Published Quarterly

OFFICIAL REPORT

AGRICULTURAL INSECTICIDE and FUNGICIDE MATERIALS

STATE INSPECTION SERVICE
UNIVERSITY OF MARYLAND
College Park, Maryland

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INTRODUCTION

The 1939 session of the Maryland General Assembly enacted an insecticide and fungicide law which became effective January 1, 1940. The State Board of Agriculture was designated as the enforcement agency. The Board in turn delegated this authority to the Inspection and Regulatory Service, which for years has been enforcing the feed, fertilizer, and lime laws. With the passage of this new statute, a gauge of quality in agricultural materials not covered previously was made available to the consumer, manufacturer, and distributor alike.

In brief, the law requires the maintenance of professed standards of quality and quantity together with proper labeling and packaging of all agricultural insecticidal products. In these respects it follows the general purport of the Federal Code governing interstate commerce. However, the State law, in addition to covering materials shipped into Maryland, also takes within its scope those products manufactured and sold within state borders.

The Inspection Service, with the approval of the State Law Department has formulated certain supplementary regulations as an aid in clarifying and interpreting the main statute. These regulations must of necessity be subject to revisions and additions in order to provide for necessary changes and readjustments in the industry.

The insecticide control law is designed to protect the buyer and to furnish him with all the information necessary to select intelligently the goods he wishes to purchase. It is fair to the manufacturer in that it does not impose futile or useless requirements. The manufacturer may sell his product and guarantee its composition knowing his competitor must follow the same procedure. Efficient enforcement obviously depends to a considerable degree on understanding and cooperation from all parties concerned.

REGULATIONS ADOPTED BY THE STATE INSPECTION AND REGULATORY SERVICE GOVERNING THE SALE OF AGRICULTURAL INSECTICIDES IN MARYLAND

Registration

Each brand of insecticide and fungicide intended for agricultural purposes is required to be registered for each calendar year or portion thereof. However, no registrant shall be required to pay more than seventy-five ($75.00) dollars as fees in any one calendar year, regardless of the number of brands registered. Applications should be submitted on or before January 1st of each year, or subsequently before sales are made, on forms furnished by this Department. These forms shall have outlined thereon: (1) the name and address of the manufacturer, registrant, or person for whom manufactured; (2) name, brand, or trade mark under which said article is sold; (3) its professed standard of quality, which is construed to mean either a statement of the name and percentage of each active ingredient together with the total percentage of all inert ingredients contained, or, in lieu thereof, a statement of the name and percentage of each inert ingredient together with the total percentage of all active ingredients; (4) net weight or measure of the contents.

Labeling

A. In addition to the foregoing requirements, packages containing arsenic or any of its combinations or other material highly toxic to man must also show a label bearing the skull and crossbones, the word "poison" in red on a contrasting colored background, an antidote therefor, and must be sold in the original unbroken package.

B. The above represents minimum requirements. Nothing in this regulation shall be construed as prohibiting the presentation of information in addition to that set down therein as obligatory, provided such information accurately describes the product.

Interpretation of "Brand"

For the purpose of this Law, each insecticide and fungicide or insecticide and fungicide material used for agricultural purposes (unless specifically exempted under Section 105E of the Act), shall be considered as distinct and separate brands, when differing either in guaranteed analysis, name, brand, or trade mark.

Original Unbroken Package

The term "original unbroken package" as used in this Act, means the package delivered by the shipper to the carrier at the initial point of shipment, in the exact condition in which it was shipped. Provided, however, that nothing in this Section will prevent a manufacturer from properly packaging his goods for transportation.

Hearings

Section 105D of the Law provides that if it appears any of the provisions of the Act have been violated, the person or persons apparently responsible for such infractions shall be given an opportunity to offer any statement or evidence which would show cause why the matter should not be referred to the proper prosecuting attorney.

A. Nature of Hearings

In the event such hearings are necessary, they will be held at such a place as may be designated. Written notice indicating the time and place will be rendered ten days in advance. Hearings will be informal; while a personal appearance will not be mandatory, in most cases it is usually advantageous. Representation by attorney will be permissible.

B. Results of Hearings

If after hearings have been held and consideration given to all the facts it is the opinion of Enforcement Officials that prosecution is not warranted, no further action will be taken. If in the opinion of Enforcement Officials prosecution is warranted, the necessary legal procedure will then be initiated.

Tolerances

It is the policy of this Department to require that guarantees as established by manufacturers shall always be maintained. The adoption of a definite tolerance is in effect a lowering of all such guarantees. As a matter of practical procedure, however, it is realized that slight allowances must be made for errors occurring in mixing, sampling, and chemical examinations. The question of deficiencies will be decided upon the facts of each case with special reference to evidence of any deliberate attempt to meet the tolerance allowed rather than the guarantee.

Interpretation of the Term "Agricultural"

The term "agricultural" as used in connection with the term "insecticide and fungicide" in this Law shall be held to include such materials as are used in soil cultivation, forestry, fruit raising, dairying, breeding, and raising of stock and poultry, or any other associated activities.

INSPECTION ACTIVITIES

This publication represents the first issued in Maryland covering the examination of insecticides and fungicides. Herein are presented the results of analyses made by the Inspection and Regulatory Service for the period January 1—December 31, 1940.

Two hundred eighty-nine samples of insecticides and fungicides were collected by State inspectors during this interval of time. To establish the accuracy of guarantees shown on containers, these samples were subjected to rigid chemical examinations. The results obtained indicate clearly that the major part of the industry is making a definite effort to have their products meet all label representations. In some cases, however, results revealed variations from guarantees. Manufacturers found responsible for deficiencies were immediately notified and in every case corrections or alterations in formulae were made.

The largest number of violations encountered represented products which had been sold without satisfaction of registration requirements. Ninety-eight sales were established of materials not previously licensed, seventy of which were subsequently registered upon notification from this Department. Twenty-eight different products, handled by sixty-three different dealers, were withdrawn from the market due to non-licensing. In this connection the chief offenders appear to be itinerant peddlers, or those parties who contact dealers and make sales and deliveries direct. They seem to have no established place of business and cannot be reached by correspondence. Dealers are cautioned to buy only from reputable manufacturers or those whose products are licensed and whose label guarantees are proven to be correct.

There is a provision of the Insecticide Law which requires the sale of materials of a poisonous nature in original unopened containers. In only two instances was this provision found being violated. These two cases involved the distribution of sodium fluoride in one pound packages, which were not labeled. These sales were being made in general merchandise stores where contamination of foodstuffs with toxic materials might very easily occur. Such distribution was immediately stopped and all containers removed until proper labeling was made.

It is anticipated that when all parties concerned become more familiar with the requirements of this Statute, infractions will decrease, especially the merchandising of unlicensed commodities.

ANALYSES OF
AGRICULTURAL INSECTICIDES,
FUNGICIDES,
AND RELATED PRODUCTS.

LEAD ARSENATES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Lead arsenate per cent	Arsenic expressed as metallic per cent	Arsenic water soluble expressed as metallic per cent	Lead expressed as metallic per cent	Decision
American Agricultural Chemical Co., Balto., Md.							
Bowker's Arsenate of Lead	Hagerstown	Guaranteed	98.00	19.50	0.50	58.00	Meets
		Found	99.54	22.46	0.33	59.41	Guarantee
The Baugh & Sons Co., Baltimore, Md.							
Baugh's Arsenate of Lead	Denton	Guaranteed	97.00	20.20	0.46	.....	Meets
		Found	97.82	21.12	0.23	59.92	Guarantee
E. C. Brown Co., Rochester, N. Y.							
Brown's Arsenate of Lead Cartridge	Frederick	Guaranteed	73.99	14.70	0.53	51.06	
		Found	84.22	18.13	2.02	50.38	NL, A.
California Spray-Chemical Corp., Richmond, Cal.							
Ortho Standard Lead Arsenate	Frederick	Guaranteed	96.00	19.50	0.50	59.50	Meets
		Found	99.44	21.47	0.21	60.03	Guarantee
Central Chemical Corp. of Md., Hagerstown, Md.							
Farmrite Arsenate of Lead	Frederick	Guaranteed	97.00	19.56	0.50	.....	
		Found	96.20	20.77	0.23	60.29	D, NL, I
Dow Chemical Co., Midland, Mich.							
Dow Powdered Arsenate of Lead	Frederick	Guaranteed	96.00	19.60	0.49	58.00	Meets
		Found	96.99	20.94	0.32	59.21	Guarantee, NL.
E. I. de Pont de Nemours & Co., (Inc.), Wilmington, Del.							
"Nu Rexform" Lead Arsenate	Hancock	Guaranteed	96.00	19.56	0.50	57.50	Meets
		Found	98.92	20.05	0.30	59.04	Guarantee
General Chemical Co., New York, N. Y.							
Orchard Brand Powdered Arsenate of Lead	Baltimore	Guaranteed	97.00	19.56	0.25	58.00	Meets
		Found	99.03	21.62	0.19	59.11	Guarantee
Mechling's Stand. Powdered Arsenate of Lead	Fruitland	Guaranteed	97.00	19.56	0.25	58.00	Meets
		Found	98.65	21.30	0.19	59.77	Guarantee
Orchard Brand Powdered Arsenate of Lead	Frederick	Guaranteed	93.00	19.56	0.49	61.00	Meets
		Found	98.70	21.31	0.08	59.73	Guarantee

Miller Chemical & Fertilizer Corp., Balto., Md.								
Miller Arsenate of Lead	Baltimore	Guaranteed	98.00	20.20	0.50	.....	Meets
		Found	99.24	20.83	0.25	.....	Guarantee
Niagara Sprayer and Chemical Co., Middleport, N. Y.								
Niagara Suspenso Lead Arsenate	Princess Anne	Guaranteed	96.00	19.50	0.50	58.00	Meets
		Found	99.02	20.79	0.30	59.10	Guarantee
The Sherwin-Williams Co., Bound Brook, N. J.								
Sherwin-Williams Arsenate of Lead	Cumberland	Guaranteed	98.00	19.50	0.50	58.00	Meets
		Found	98.67	22.17	0.32	58.89	Guarantee
United Cooperatives, Inc., Indianapolis, Ind.								
Unico Arsenate of Lead Powder	Bel Air	Guaranteed	97.00	19.50	0.50	.....	
		Found	99.74	21.69	0.42	59.53	B, Meets Guarantee
Van Horn Chemical Co., Inc., Jersey City, N. J.								
Van Horne's Arsenate of Lead	Baltimore	Guaranteed	96.00	19.60	0.75	58.00	I, Meets
		Found	96.97	20.93	0.35	59.77	Guarantee

NL—Not licensed at time of sale.
A—Water soluble arsenic exceeds maximum guarantee.
D—Deficient in lead arsenate.
B—No "poison," "skull and crossbones" or antidote on label.
I—Guarantee on label differs from license.

LEAD ARSENATE MIXTURES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Lead arsenate per cent	Arsenic expressed as metallic per cent	Arsenic water soluble expressed as metallic per cent	Lead expressed as metallic per cent	Sulfur per cent	Nicotine as alkaloid per cent	Copper as metallic per cent	Decision
Allegheny Chemical Corp., Reading, Pa.										
High Standard Sulphur Dust Mixture	Denton	Guaranteed	14.00	2.74	0.50	.....	83.00	.....	.....	Meets
		Found	14.54	3.28	0.22	8.65	84.69	.....	.....	Guarantee C.
Garden Hose Spray Co., Inc., Cambridge, Mass.										
Arnold Cop-Ar-Nic	Baltimore	Guaranteed	21.00	4.10	0.11	13.10	.....	15.00	5.00	
		Found	28.96	6.25	1.40	17.28	.....	14.28	4.86	NL, A.

LEAD ARSENATE MIXTURES—Continued

REGISTRANT AND BRAND NAME	PLACE SAMPLED	Guaranteed and Found	Lead arsenate per cent	Arsenic expressed as metallic per cent	Arsenic water soluble expressed as metallic per cent	Lead expressed as metallic per cent	Sulphur per cent	Nicotine as alkaloid per cent	Copper as metallic per cent	DECISION
General Chemical Co., New York, N. Y.										
Orchard Brand	Snow Hill	Guaranteed	14.00	2.74	0.50	.....	83.00	.....	.....	Meets
85–15 Dust		Found	14.91	3.22	0.19	.....	83.13	.....	.....	Guarantee
Kaylox Insecticide Co., Inc., Baltimore, Md.										
Kaylox	Baltimore	Guaranteed	30.00	6.11	0.98	.....	.....	.....	15.00	Meets
		Found	29.79	6.39	0.50	.....	.....	.....	16.26	Guarantee
Miller Chem. & Fertilizer Corp., Baltimore, Md.										
Miller 85–15 Sulphur	Baltimore	Guaranteed	14.50	2.90	0.50	.....	84.50	.....	.....	
Lead Arsenate Dust		Found	16.20	3.50	0.19	.....	84.30	.....	.....	D, C.
Niagara Sprayer and Chem. Co., Middleport, N. Y.										
Niagara Fruitex Dust	Princess Anne	Guaranteed	15.00	2.92	0.50	8.70	82.00	.....	.....	Meets
		Found	16.18	3.26	0.22	9.65	83.18	.....	.....	Guarantee I.
The Sherwin-Williams Co., Bound Brook, N. J.										
Sherwin-Williams Sulfur Lead Bentonite Dust	Ridgely	Guaranteed	15.00	2.90	0.50	8.70	80.00	.....	.....	Meets
80–15–5		Found	15.10	3.26	0.26	9.00	80.10	.....	.....	Guarantee
Sherwin-Williams	Cumberland	Guaranteed	14.50	2.80	0.30	8.40	.....	.....	10.50	Meets
Pestroy		Found	15.38	3.32	0.22	8.62	.....	.....	11.91	Guarantee

C—Brand name differs from license.
NL—Not licensed at time of sale.
A—Water soluble arsenic exceeds maximum guarantee.
I—Sulphur content on label differs from license.
D—Deficient in sulphur.

CALCIUM ARSENATES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Calcium arsenate per cent	Arsenic expressed as arsenic pentoxide per cent	Arsenic expressed as metallic per cent	Arsenic water soluble expressed as metallic per cent	Decision
The American Agricultural Chemical Co., Balto., Md.							
Bowker's Calcide (Calcium Arsenate)	Hagerstown	Guaranteed	70.00	40.00	26.00	0.75	Meets
		Found	71.52	41.28	26.92	0.16	Guarantee
The Baugh & Sons Co., Baltimore, Md.							
Baugh's Calcium Arsenate	Denton	Guaranteed	70.00	40.00	26.10	0.75	Meets
		Found	74.44	42.99	28.03	0.15	Guarantee
Chipman Chemical Co., Inc., Bound Brook, N. J.							
Chipman Brand Calcium Arsenate	Hancock	Guaranteed	69.00	40.00	26.00	0.49	Meets
		Found	71.76	41.42	27.01	0.28	Guarantee NL, K.
General Chemical Co., New York, N. Y.							
Mechling's Arsenate of Calcium with other Calcium Compounds	Hagerstown	Guaranteed	70.00	40.00	26.00	1.00	A. Meets
		Found	70.78	40.86	26.64	0.07	Guarantee
Miller Chemical and Fertilizer Corp., Balto., Md.							
Miller Arsenate of Calcium	Baltimore	Guaranteed	70.00	40.00	26.00	0.50	Meets
		Found	70.35	40.61	26.48	0.07	Guarantee
Sears Roebuck & Co., Chicago, Ill.							
Calcium Arsenate	Baltimore	Guaranteed	70.00	40.00	26.00	0.49	Meets
		Found	70.22	40.66	26.51	0.15	Guarantee

NL—Not licensed at time of sale.
A—Guarantee on label differs from license.
K—Arsenic trioxide equivalent guaranteed 34.43%. Found 35.66%.

CALCIUM ARSENATE MIXTURES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Calcium arsenic per cent	Arsenic expressed as metallic per cent	Arsenic water soluble expressed as metallic per cent	Copper as metallic per cent	Copper sulfate monohydrate per cent	Decision
The American Agricultural Chemical Co., Baltimore, Md.								
Bowker's Nicotine Pyrox	Baltimore	Guaranteed	8.75	3.26	0.30	7.00	.....	Meets
		Found	9.41	3.54	0.07	7.35	.....	Guarantee A.
Antrol Laboratories, Inc., Los Angeles, Cal.								
Snarol	Baltimore	Guaranteed	5.00	1.88	1.88	.....	.....	Meets
		Found	7.58	2.85	2.87	.....	.....	Guarantee I, B.
General Chemical Co., New York, N. Y.								
Mechling's Hydroxcide Double Duty Spray Powder	Hagerstown	Guaranteed	33.25	12.50	1.50	12.75	.....	Meets
		Found	36.37	13.69	0.81	13.79	.....	Guarantee
Orchard Brand Copper Calcium Arsenate Lime Dust 20–20–60	Salisbury	Guaranteed	14.20	5.30	0.50	7.15	20.00	Meets
		Found	15.65	5.89	0.07	7.13	22.38	Guarantee
Mechling's No. 40 Insecticidal and Fungicidal Dust*	Church Hill	Guaranteed	14.20	5.30	0.50	7.15	20.00	Meets
		Found	15.70	5.91	0.05	7.65	21.38	Guarantee
Orchard Brand Copar	Salisbury	Guaranteed	5.75	4.50	0.40	6.00	.....	Meets
		Found	3.72	5.15	0.23	6.81	.....	Guarantee G, H.
Miller Chemical & Fertilizer Corp., Baltimore, Md.								
Miller 20–60–20 Copper-Lime-Arsenate Dust	Baltimore	Guaranteed	14.00	5.00	0.50	7.00	20.00	Meets
		Found	14.29	5.38	0.05	7.31	20.43	Guarantee
Niagara Sprayer and Chemical Co., Inc., Middleport, N. Y.								
Niagara Cucurbit Dust	Princess Anne	Guaranteed	17.50	6.50	0.50	5.00	.....	Meets
		Found	18.04	6.79	0.20	5.49	.....	Guarantee C.
The Sherwin-Williams Co., Bound Brook, N. J.								
Basi-Cop Dust No. 5	Grantsville	Guaranteed	14.00	5.20	0.50	8.50	.....	Meets
		Found	15.62	5.88	0.14	9.28	.....	Guarantee
The Simpkins Mfg. Co., Princess Anne, Md.								
Knock-Out	Pocomoke City	Guaranteed	11.20	4.20	1.00	.....	.....	
		Found	15.04	5.66	0.15	.....	.....	D.

A—Nicotine as alkaloid guaranteed 1.60%. Found 1.63%.
B—Metaldehyde guaranteed 2.50%. Found 3.84%.
C—Red copper oxide guaranteed 5.8%. Found 6.18%.
D—Deficient in sulphur; guaranteed 16.0%. Found 14.76%.
G—Arsenic expressed as As_2O_5 guaranteed 6.90%. Found 7.90%.
H—Basic zinc arsenate guaranteed 9.00%. Found 11.86%.
I—Information on label differs from license.
NL—Not licensed at time of sale.

A—Nicotine as alkaloid guaranteed 1.60%. Found 1.65%.
B—Metaldehyde guaranteed 2.50%. Found 3.84%.
C—Red copper oxide guaranteed 5.8%. Found 6.18%.
D—Deficient in sulphur; guaranteed 16.0%. Found 14.76%.

H—Basic zinc arsenate guaranteed 9.00%. Found 11.86%.
I—Information on label differs from license.
NL—Not licensed at time of sale.

ARSENICAL ANT POISONS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Sodium arsenate per cent	Sodium arsenite per cent	Arsenic water soluble expressed as metallic per cent	Decision
Acme White Lead and Color Works, Detroit, Mich.						
Acme Ant-Kill	Baltimore	Guaranteed	.....	0.43	0.25	Meets
		Found	.....	0.78	0.35	Guarantee
Antrol Laboratories, Inc., Los Angeles, Calif.						
Antrol Ant Syrup	Baltimore	Guaranteed	.....	0.35	0.20	Meets
		Found	.....	0.53	0.25	Guarantee
Antrol Ant Trap	Bel Air	Guaranteed	.....	0.21	0.12	Meets
		Found	.....	0.84	0.21	Guarantee A.
Goulard and Olena, Inc., New York, N. Y.						
Knock "em" Dead Ant Drops	Baltimore	Guaranteed	1.36	.....	0.40	Meets
		Found	1.86	.....	0.75	Guarantee
Harris Products Co., Miami Beach, Fla.						
Ant Buttons	Annapolis	Guaranteed	14.41	.....	3.46	
		Found	10.85	.....	3.91	NL, D.

NL—Not licensed at time of sale.
A—Guarantee on label differs from license.
D—Deficient in sodium arsenate.

MISCELLANEOUS MATERIALS CONTAINING ARSENIC

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed per cent	Found per cent	Decision
Acme White Lead and Color Works, Detroit, Mich.					
Acme Paris Green	Baltimore	Arsenic expressed as metallic	37.90	43.63	
		Arsenic expressed as arsenic trioxide	50.00	57.60	
		Arsenic in water soluble form expressed as metallic	2.70	0.63	Meets
		Copper expressed as metallic	24.00	24.60	Guarantee I.
S. L. Cowley, Cowley Manufacturing Co., Hugo, Oklahoma					
Cowley's Rat & Mouse Exterminator	Maugansville	Arsenic expressed as arsenic trioxide	2.66	2.04	D.
		Arsenic in water soluble form expressed as metallic	2.20	1.49	NL.
The Dow Chemical Co., Midland, Mich.					
Dow Paris Green	Frederick	Arsenic expressed as metallic	37.80	44.00	
		Arsenic expressed as arsenious oxide	50.00	58.09	
		Arsenic in water soluble form expressed as metallic	2.60	0.53	
		Arsenic in water soluble form expressed as arsenious oxide	3.50	0.70	Meets
		Copper expressed as metallic	21.30	24.63	Guarantee NL, A.
Dow Magnesium Arsenate	Baltimore	Arsenic expressed as metallic	20.90	21.50	
		Arsenic in water soluble form expressed as metallic	0.23	0.23	Meets
		Tri-magnesium arsenate	48.80	50.20	Guarantee NL.
General Chemical Co., New York, N. Y.					
Mechling's Mexican Bean Beetle Destroyer	Hagerstown	Arsenic expressed as metallic	5.22	3.42	
		Arsenic expressed as arsenic trioxide	8.00	4.52	
		Arsenic in water soluble form expressed as metallic	0.50	0.09	
		Tri-magnesium arsenate	12.20	8.00	D.

James Good, Inc., Philadelphia, Pa.					
Weedex Weed Killer	Baltimore	Arsenic expressed as sodium metarsenite	41.00	43.79	Meets
					Guarantee NL,B,C.
Interstate Chemical Mfg. Co., Jersey City, N. J.					
Key-Weed Weed Killer	Baltimore	Arsenic expressed as sodium arsenite	46.00	46.05	
		Arsenic in water soluble form expressed as metallic	26.00	26.56	
		Arsenic expressed as arsenic trioxide	34.00	35.07	Meets
					Guarantee NL,E,C.
William R. Warner & Co., Inc., New York, N. Y.					
Sure Death Rat Killer		Total arsenic expressed as arsenic trioxide	97.00	97.36	Meets
Sure Death Poison Fly Paper		Arsenic expressed as metallic	2.00	3.43	Guarantee
		Arsenic in water soluble form expressed as metallic	2.00	1.85	Meets Guarantee

A—No statement of inert ingredients on label.
B—No "poison," skull and crossbones or antidote on label.
C—No guarantee on label.
E—No skull and crossbones on label.
D—Deficient.
I—Guarantee on label differs from license.
NL—Not licensed at time of sale.

LIME SULPHURS
DRY FORM

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Calcium poly-suphide per cent	Calcium thio-sulphate per cent	Sulphur per cent	Density Baumé degrees	Decision
Acme White Lead and Color Works, Detroit, Mich.							
Acme Lime Sulphur	Baltimore	Guaranteed	70.00	5.00	5.00	.....	Meets
		Found	72.90	4.27	5.54	.....	Guarantee
American Agricultural Chemical Co., Baltimore, Md.							
Bowker Dry Lime Sulphur	Easton	Guaranteed	70.00	5.00	10.00	.....	Meets
		Found	70.46	11.18	5.81	.....	Guarantee
Miller Chemical and Fertilizer Co., Baltimore, Md.							
Miller Dry Lime Sulphur	Baltimore	Guaranteed	70.00	5.00	10.00	.....	Meets
		Found	69.51	9.87	9.25	.....	Guarantee

LIME SULPHURS
SOLUTIONS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Calcium polysuphide per cent	Calcium thiosulphate per cent	Sulphur per cent	Density Baume' degrees	Decision
Central Chemical Corp. of Md., Hagerstown, Md.							
Lime Sulphur Solution	Frederick	Guaranteed	29.00			32.00	Meets
		Found	30.11			32.50	Guarantee NL.
Miller Chemical and Fertilizer Co., Baltimore, Md.							
Miller Lime Sulphur Solution	Westminster	Guaranteed	29.00				Meets
		Found	30.19				Guarantee
Miller Lime Sulphur Solution	Baltimore	Guaranteed	29.00				Meets
		Found	29.67				Guarantee

NL—Not licensed at time of sale.

SULPHURS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Sulphur per cent	Decision
Central Chemical Corp. of Md., Hagerstown, Md.				
Flo-Sul Wettable Sulphur	Frederick	Guaranteed	90.00	
		Found	86.33	D.
The Dow Chemical Co., Midland, Mich.				
"Mike" Sulphur	Frederick	Guaranteed	95.00	Meets
		Found	95.49	Guarantee NL.
E. I. de Pont de Nemours & Co., (Inc.), Wilmington, Del.				
Dupont Sulforon	Hancock	Guaranteed	97.00	Meets
		Found	97.09	Guarantee
Miller Chemical and Fertilizer Co., Baltimore, Md.				
Miller Hy-Tox Sulphur	Baltimore	Guaranteed	95.00	Meets
		Found	97.06	Guarantee
Coarse Commercial Sulphur	Denton	Guaranteed	99.50	Meets
		Found	99.70	Guarantee NL.
Montgomery Ward & Co., Inc., Baltimore, Md.				
Garden Club Conditioned Dusting Sulphur	Baltimore	Guaranteed	97.00	Meets
		Found	97.65	Guarantee A.
Niagara Sprayer and Chemical Co., Middleport, N. Y.				
Niagara Superfine Dusting Sulphur	Princess Anne	Guaranteed		Meets
		Found	99.07	Guarantee B.

NL—Not licensed at time of sale.
A—Guarantee on label differs from license.
B—No guarantee on license and label.
D—Deficient in sulphur.

NL—Not licensed at time of sale.
A—Guarantee on label differs from license.

D—Deficient in sulphur.

COPPER COMPOUNDS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Copper expressed as metallic per cent	Copper sulphate per cent	Decision
Acme White Lead and Color Works, Detroit, Mich.					
Acme Bordeaux Mixture	Baltimore	Guaranteed	12.75	.....	Meets
		Found	13.22	.....	Guarantee
Acme Kopper King	Baltimore	Guaranteed	50.00	.....	Meets
		Found	50.46	.....	Guarantee NL.
Ansbacher-Siegel Corp., Brooklyn, N. Y.					
Ansbacher Bordeaux Mixture Powder (Triangle Brand)	Hagerstown	Guaranteed	12.50	.....	Meets
		Found	13.31	.....	Guarantee
The Baugh & Sons Co., Baltimore, Md.					
Baugh's Brand Copper Sulphate Crystals and Powder	Baltimore	Guaranteed	25.00	99.00	Meets
		Found	25.36	99.62	Guarantee
E. C. Brown Co., Rochester, N. Y.					
Brown's Copper Fungicide Cartridge	Frederick	Guaranteed	37.00	.....	Meets
		Found	44.94	.....	Guarantee NL.
General Chemical Co., New York, N. Y.					
Mechling's Powdered Bordeaux Mixture	Hagerstown	Guaranteed	12.50	.....	Meets
		Found	15.25	.....	Guarantee
Miller Chemical and Fertilizer Co., Baltimore, Md.					
Miller Bordeaux Mixture	Baltimore	Guaranteed	12.75	.....	Meets
		Found	13.35	.....	Guarantee
Niagara Sprayer and Chemical Co., Middleport, N. Y.					
Niagara Monohydrated Copper Sulphate	Mt. Lake Park	Guaranteed	.....	93.00	Meets
		Found	35.26	98.54	Guarantee
Phelps Dodge Refining Corp., New York, N. Y.					
Triangle Brand Copper Sulphate	Denton	Guaranteed	25.20	99.00	Meets
		Found	25.30	99.50	Guarantee
Rohm and Haas Co., Inc., Philadelphia, Pa.					
Cuprocide 54–Y	Westminster	Guaranteed	47.00	.....	Meets
		Found	48.32	.....	Guarantee T.
Tennessee Copper Co., Copper Hill, Tenn.					
Tennessee Copper Sulphate	Snow Hill	Guaranteed	25.20	99.00	Meets
		Found	25.40	99.70	Guarantee

T—Yellow cuprous oxide—Guaranteed 52.8%. Found 54.40%.

NL—Not licensed at time of sale.

SODIUM FLUORIDE MIXTURES

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed per cent	Found per cent	Decision
Blackman Stock Medicine Co., Chattanooga, Tenn.					
Blackman's Lice Powder	Cumberland	Sodium Fluoride	10.00	10.48	
		Naphthalene	5.00	10.15	
		Sulphur	46.00	46.43	
		Nicotine	0.20	0.21	Meets Guarantee NL.
The G. E. Conkey Co., Cleveland, Ohio					
Conkeys Lice Powder	Hancock	Sodium Fluoride	9.00	12.07	
		Sulphur	9.50	12.73	
		Nicotine	0.20	0.47	Meets Guarantee NL.
DeVore Mfg. Co., New York, N. Y.					
Sodium Fluoride	Cockeysville	Sodium Fluoride	95.00	96.62	Meets
		Sodium Silicofluoride	2.50	1.67	Guarantee NL.
Montgomery Ward and Co., Inc., Baltimore, Md.					
Ward's Sodium Fluoride	Baltimore	Sodium Fluoride	95.00	97.43	Meets Guarantee NL, A.
Ralston Purina Co., St. Louis, Mo.					
Purina Lice Powder	Raspeburg	Sodium Fluoride	32.00	33.39	
		Sodium Fluosilicate	2.00	1.93	
		Sulphur	18.00	19.69	
		Camphor	1.00	Present	B.
Royal Mfg. Co., of Duquesne, Duquesne, Pa.					
High Strength Sodium Fluoride	North Beach	Sodium Fluoride	95.00	91.00	
		Sodium Silicofluoride	2.50	0.33	NL, D.

A—No skull and crossbones on label.
B—No "poison" or skull and crossbones on label.
D—Deficient in sodium fluoride.
NL—Not licensed at time of sale.

CHLORINE COMPOUNDS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Calcium hypochlorite per cent	Available chlorine per cent	Decision
Ralston Purina Co., St. Louis, Mo.					
Purina Chlorena	Raspeburg	Guaranteed	15.00	15.00	Meets
		Found	16.21	16.08	Guarantee
The Mathieson Alkali Works, Inc., New York, N. Y.					
Lo-Bax	College Park	Guaranteed	50.00	50.00	Meets
		Found	56.55	56.11	Guarantee
H-T-H-15	College Park	Guaranteed	15.00	15.00	Meets
		Found	16.22	16.09	Guarantee

PHOSPHORUS PASTES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Phosphorus per cent	Decision
Common Sense Mfg. Co., Inc., Buffalo, N. Y.				
Common Sense Rat Exterminator	Chesapeake Cy.	Guaranteed	2.00	
		Found	1.78	NL, D.
Common Sense Rat Exterminator	Baltimcre	Guaranteed	2.00	Meets
		Found	2.03	Guarantee NL.
Liquid Veneer Corp., Buffalo, N. Y.				
Rat-Nip	Bel Air	Guaranteed	1.18	Meets
		Found	1.47	Guarantee NL.
D. Maurer & Son Co., Inc., Philadelphia, Pa.				
Maurer's Rat and Roach Paste	Havre de Grace	Guaranteed	1.50	Meets
		Found	1.62	Guarantee NL.
John Opitz, Inc., Long Island City, N. Y.				
J-O Roach-Rat Paste	Annapolis	Guaranteed	1.38	Meets
		Found	1.40	Guarantee NL.
Peoples Drug Stores, Washington, D. C.				
Peoples Quality Rat and Roach Poison	Silver Spring	Guaranteed	2.00	Meets
		Found	2.80	Guarantee NL.
Pfeiffer Chemical Co., New York, N. Y.				
Hobson's Rat, Gopher and Roach Paste	Silver Spring	Guaranteed	2.50	Meets
		Found	2.53	Guarantee NL.

PHOSPHORUS PASTES—Continued

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Phosphorus per cent	Decision
S. Pfeiffer Mfg. Co., St. Louis, Mo.				
Killall Genuine Rat Paste	Aberdeen	Guaranteed	2.00	
		Found	1.63	NL, A, D.
Killall Genuine Rat Paste	Aberdeen	Guaranteed	2.00	
		Found	1.75	NL, A, D.
Stearns Electric Paste Co., Chicago, Ill.				
Stearns Electric Rat and Roach Paste	Snow Hill	Guaranteed	3	Meets
		Found	2.98	Guarantee NL.
United Drug Co., Boston, Mass.				
Elkay's Mice and Rat Paste	Silver Spring	Guaranteed	2.00	Meets
		Found	2.01	Guarantee NL.

A—No guarantee on label. D—Deficient in phosphorus. NL—Not licensed at time of sale.

NICOTINES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Nicotine expressed as alkaloid per cent	Decision
Dr. Salsbury's Laboratories, Charles City, Iowa				
Nic-Sal	Bel Air	Guaranteed		Meets
		Found	10.33	Guarantee NL.
Eastern States Farmers' Exchange, Springfield, Mass.				
Eastern States 40% Nicotine Sulphate Solution	Snow Hill	Guaranteed	40.00	Meets
		Found	41.28	Guarantee
General Chemical Co., New York, N. Y.				
Mechling's Powdered Tobacco	Hagerstown	Guaranteed	1.00	Meets
		Found	1.14	Guarantee
Goulard & Olena, Inc., New York, N. Y.				
G. & O. Nicotine Sulphate 40%	Baltimore	Guaranteed	40.00	Meets
		Found	42.47	Guarantee

Mitzel Brothers, York, Pa.				
Gold Dust Tobacco	Bel Air	Guaranteed	1.00	Meets
		Found	1.09	Guarantee
Montgomery Ward & Co., Chicago, Ill.				
Ward's Garden Club Nicotine Sulphate	Baltimore	Guaranteed	40.00	Meets
		Found	40.03	Guarantee
Owings Mills Supply Co., Owings Mills, Md.				
Ground Tobacco Stems	Bel Air	Guaranteed	0.35	Meets
		Found	0.77	Guarantee
Pratt Food Co., Hammond, Ind.				
Pratts Roost Paint	Gaithersburg	Guaranteed	.....	Meets
		Found	8.54	Guarantee
Tobacco By-Products & Chemical Corp., Louisville, Ky.				
"Nico-Fume" Tobacco Powder	Baltimore	Guaranteed	14.00	Meets
		Found	14.12	Guarantee
"Gold Leaf" Tobacco Leaf Dust	Friendsville	Guaranteed	1.00	Meets
		Found	1.17	Guarantee
Mash-Nic	St. Michaels	Guaranteed	1.25	Meets
		Found	1.29	Guarantee

NL—Not licensed at time of sale.

ROTENONE INSECTICIDES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Rotenone per cent	Other ether extractives per cent	Decision
The American Agricultural Chemical Co., Baltimore, Md.					
Bowker's Derox Vegetable Insecticide	Hagerstown	Guaranteed	0.55	.....	Meets
		Found	0.62	1.69	Guarantee
The Baugh & Sons Co., Baltimore, Md.					
Baugh's Stabilized Rotenone Dust No. 75	Baltimore	Guaranteed	0.75	1.60	Meets
		Found	0.81	3.43	Guarantee I.
Bourbon Remedy Co., Lexington, Ky.					
Bourbon Rotenone Dust	Silver Spring	Guaranteed	0.75	1.50	Meets
		Found	0.76	2.16	Guarantee
Carbola Chemical Co., Inc., Natural Bridge, N. Y.					
C. C. C. Copper Rote	Baltimore	Guaranteed	0.75	2.00	Meets
		Found	0.94	4.32	Guarantee NL, I.
Derris Inc., New York, N. Y.					
Rotenone Dust	Salisbury	Guaranteed	0.75	.....	Meets
		Found	0.81	4.29	Guarantee

ROTENONE INSECTICIDES—Continued

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Rotenone per cent	Other ether extractives per cent	Decision
Exterminator Mfg. Co., Baltimore, Md.					
One Rub Flea Finish	Baltimore	Guaranteed	1.00	3.50	Meets
		Found	1.03	4.52	Guarantee
General Chemical Co., New York, N. Y.					
Mechling's Rotenone "400" Spray Powder	Hagerstown	Guaranteed	4.00	11.00	Meets
		Found	4.31	27.11	Guarantee
Mechling's Rotenone "75" Insecticide Dusting Mixture	Fruitland	Guaranteed	0.75	1.65	Meets
		Found	0.88	2.95	Guarantee
Hammond Paint & Chemical Co., Inc., Beacon, N. Y.					
Hammond's Stabilized Rotenone Dust "No. 75"	Reisterstown	Guaranteed	0.75	1.50	Meets
		Found	0.83	5.31	Guarantee
McCormick and Co., Baltimore, Md.					
McCormick's Rotenone Dust	Baltimore	Guaranteed	0.75	2.25	Meets
		Found	0.87	5.35	Guarantee
Derris Powder	Baltimore	Guaranteed	4.00	14.00	Meets
		Found	5.83	22.89	Guarantee
Miller Chemical and Fertilizer Corp., Baltimore, Md.					
Miller Rotenone Dust No. "75"	College Park	Guaranteed	0.75	1.75	Meets
		Found	0.96	1.87	Guarantee
Montgomery Ward and Co., Inc., Baltimore, Md.					
Ward's Garden Club Rotenone Bearing Dust	Baltimore	Guaranteed	.....	2.55	Meets
		Found	0.41	3.87	Guarantee I.
Nott Mfg. Co., New York, N. Y.					
Flea Not	Baltimore	Guaranteed	1.00	2.04	Meets
		Found	0.98	2.58	Guarantee
The Parrott Chemical Co., Stamford, Conn.					
Lucky Strike Dust	Westminster	Guaranteed	0.75	2.25	Meets
		Found	0.88	2.78	Guarantee I.
Lucky Strike Dust	Chewsville	Guaranteed	1.00	2.50	Meets
		Found	1.02	4.39	Guarantee NL.
Polk Miller Products Corp., Richmond, Va.					
Sergeant's Skip-Flea Powder	Baltimore	Guaranteed	1.00	2.00	Meets
		Found	1.25	13.60	Guarantee
The Sherwin-Williams Co., Bound Brook, N. J.					
Sherwin-Williams Roto-Dust	Grantsville	Guaranteed	0.75	1.50	Meets
		Found	0.71	2.37	Guarantee
The Simpkins Mfg. Co., Princess Anne, Md.					
Simpkins' Rotenone Dust	Princess Anne	Guaranteed	0.75	3.00	Meets
		Found	0.76	3.87	Guarantee

I—Information on label differs from license.

NL—Not licensed at time of sale.

		Found	0.76	3.87		Guarantee

I—Information on label differs from license. NL—Not licensed at time of sale.

ROTENONE MIXTURES

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Rotenone per cent	Other ether extractives per cent	Sulphur per cent	Decision
Acme White Lead and Color Works, Detroit, Mich.						
Acme 75 Bean Beetle Rotenone Dust	Baltimore	Guaranteed	0.75	1.50	15.00	Meets
		Found	0.78	2.00	15.37	Guarantee
The Baugh & Sons Co., Baltimore, Md.						
Baugh's Stabilized Rotenone Dust with Sulphur No. 75	Baltimore	Guaranteed	0.75	1.60	15.00	Meets
		Found	0.78	3.87	16.39	Guarantee
Baugh's Stabilized Rotenone Dust with Sulphur No. 100	Baltimore	Guaranteed	1.00	2.25	15.00	Meets
		Found	1.08	3.65	16.15	Guarantee
Central Chemical Corp. of Md., Hagerstown, Md.						
Rotenone Dust	Frederick	Guaranteed	0.75	2.40	25.00	Meets
		Found	0.76	2.50	26.25	Guarantee
General Chemical Co., New York, N. Y.						
Mechling's Sulrote	Hagerstown	Guaranteed	0.80	1.70	22.50	Meets
		Found	0.86	3.53	23.94	Guarantee
H. Clay Glover Co., Inc., New York, N. Y.						
Glover's Imperial Flea Killer	Chestertown	Guaranteed	1.00	2.00	19.90	Meets
		Found	1.14	3.59	21.61	Guarantee NL.
McCormick and Co., Baltimore, Md.						
Bee Brand Flea Powder	Raspeburg	Guaranteed	1.00	4.00	.....	Meets
		Found	1.01	4.52	.....	Guarantee A.
Miller Chemical & Fertilizer Corp., Baltimore, Md.						
Mico Rose Garden and Vegetable Dust	Baltimore	Guaranteed	1.00	3.50	.....	Meets
		Found	0.80	3.87	.....	Guarantee B.
Miller Rotenone Dust No. 100	Denton	Guaranteed	1.00	2.50	.....	Meets
		Found	1.28	3.79	13.50	Guarantee
Miller's Tubacide	Westminster	Guaranteed	1.00	3.50	25.00	Meets
		Found	1.00	3.57	26.34	Guarantee
S. Pfeiffer Mfg. Co., St. Louis, Mo.						
Killall Flea Powder	Aberdeen	Guaranteed	.....	3.00	.....	Meets
		Found	.....	3.24	.....	Guarantee E,NL,I.
Southern States Cooperative Inc., Baltimore, Md.						
Super Rotenone Dust	Westminster	Guaranteed	0.75	1.65	10.00	Meets
		Found	0.86	2.63	11.99	Guarantee

A—Brown camphor oil guaranteed 3.00%. Found 6.63%.
B—Copper guaranteed 11.00%. Found 11.12%.
E—Pyrethrins guaranteed 0.07%. Found 0.074%.
I—Information on label differs from license.
NL—Not licensed at time of sale.

PYRETHRUM DUSTS AND SPRAYS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Pyrethrins per cent	Decision
Allaire, Woodward and Co., Peoria, Ill.				
El Vampiro	Annapolis	Guaranteed	0.60	Meets
		Found	0.62	Guarantee NL, I.
The A. S. Boyle Co., Jersey City, N. J.				
Black Flag Insect Powder	Annapolis	Guaranteed	0.70	Meets
		Found	0.88	Guarantee NL.
McLaughlin Gormley King Co., Minneapolis, Minn.				
Ever Green Garden Spray	Baltimore	Guaranteed	.....	Meets
		Found	1.22	Guarantee NL, K.
Montgomery Ward & Co., Inc., Baltimore, Md.				
Ward's Insect and Lice Powder	Baltimore	Guaranteed	.....	Meets
		Found	0.52	Guarantee B.
The Geo. H. Nowland Co., Cincinnati, Ohio				
Nowland's Landford Garden Spray	Baltimore	Guaranteed	.....	Meets
		Found	Present	Guarantee H.
Ralston Purina Co., St. Louis, Mo.				
Purina Insect Powder	Raspeburg	Guaranteed	0.80	Meets
		Found	0.82	Guarantee

B—Petroleum ether extractives found 6.20%.
I—Information on label differs from license.
H—Water guaranteed 2.00%. Found trace.
K—Water guaranteed 14.00%. Found 8.50%.
NL—Not licensed at time of sale.

MISCELLANEOUS MATERIALS CONTAINING PYRETHRUM

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed per cent	Found per cent	Decision
The E. C. Brown Co., Rochester, N. Y.					
Brown's Pyrethrum and Rotenone Cartridge	Frederick	Rotenone	0.50	Present	
		Other Derris Resins	17.00	.....	
		Pyrethrins	0.35	2.42	
		Soap	61.00	61.51	Meets
		Pyrethrum Extractives	3.00	.....	Guarantee NL, A.

Garden Hose Spray Co., Inc., Cambridge, Mass.					
Arnold Jap-O-Spray	Baltimore	Pyrethrins	1.44	2.39	Meets
		Soap	62.00	70.00	Guarantee NL.
Montgomery Ward & Co., Inc., Baltimore, Md.					
Ward's Garden Club Pyrethrum Bearing Dust	Baltimore	Pyrethrum Extractives	1.25	1.47	Meets Guarantee I, G.
Parrott Chemical Co., Stamford, Conn.					
Lucky Strike Garden Spray	Chewsville	Water	10.00	2.47	
		Pyrethrins	.....	0.53	
		Rotenone	.....	Present	Meets Guarantee NL, E.
Pratt Food Co., Hammond, Ind.					
Pratt's Lice Killer	Gaithersburg	Pyrethrum	0.10	.....	
		Nicotine (as alkaloid)	0.95	0.95	
		Naphthalene	0.40	0.64	
		Sulphur	10.00	10.92	Meets Guarantee
West Disinfecting Co., Long Island City, N. Y.					
Grainosect	Princess Anne	Pyrethrins	0.07	0.92	Meets
		Isobutyl Undecylenamide	0.46	0.58	Guarantee F.

A—Alcohol extractives of soap and plant extractive material from pyrethrum and derris and/or cubé found 86.71%.
E—Specific gravity at room temperature 1.224.
F—Specific gravity at room temperature 0.775.
G—Pyrethrins found 0.015%.
I—Information on label differs from license.
NL—Not licensed at time of sale.

OIL EMULSIONS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Oils per cent	Water per cent	Decision
California Spray-Chemical Corp., Richmond, Calif.					
Nursery Volck	Baltimore	Guaranteed	80.00	.....	Meets
		Found	81.70	15.85	Guarantee A, B.
Central Chemical Corp. of Md., Hagerstown, Md.					
Dowspray Emulsion	Frederick	Guaranteed	75.00	.....	Meets
		Found	75.90	.....	Guarantee F, NL.
Farmrite 83% Oil Emulsion	Frederick	Guaranteed	76.50	.....	Meets
		Found	80.88	.....	Guarantee NL, I.

A—Emulsifier found 0.66%.
B—Unsulfonated oil found 94.60%.
F—2, 4 Dinitro, 6 cyclohexyl phenol guaranteed 3.50%. Found 7.88%.
I—Information on label differs from license.
NL—Not licensed at time of sale.

FLY SPRAYS

Registrant and Brand Name	Place Sampled	Guaranteed	Specific Gravity at room temp.	Decision
Baldwin Laboratories, Inc., Saegertown, Pa.				
Dwin Household Insect Spray	Cambridge	100% active ingredients	0.777	Meets Guarantee
The Barrett Co., New York, N. Y.				
Barrett Cattle Spray	Gaithersburg	2.00% inert ingredients	0.994	Meets Guarantee NL,B,E.
A. S. Boyle Co., Jersey City, N. J.				
Exit Insect Spray	Berlin	100% active ingredients	0.799	Meets Guarantee NL.
The Dill Co., Norristown, Pa.				
Dillspray Insecticide	Bel Air	100% active ingredients	0.792	Meets Guarantee NL, C.
Gulf Oil Corp., Pittsburgh, Pa.				
Gulfspray Insect Killer	Salisbury	100% active ingredients		Meets Guarantee
Gulf Livestock Spray	Unionville	100% active ingredients	0.838	Meets Guarantee
Harford Hardware and Supply Co., Bel Air, Md.				
Fly and Insect Killer	Bel Air	100% active ingredients	0.790	Meets Guarantee NL.
Dr. Hess and Clark, Ashland, Ohio				
Dr. Hess Livestock Fly Spray	Bel Air	100% active ingredients	0.845	Meets Guarantee
R. M. Hollingshead Corp., Camden, N. J.				
Drake Insect Killer	Clinton	100% active ingredients	0.805	Meets Guarantee
Whiz Fly Fume Insect Killer	Clinton	100% active ingredients	0.807	Meets Guarantee NL.
J. Roland Johnson, Inc., Salisbury, Md.				
Killsum	Salisbury	100% active ingredients		Meets Guarantee
Dr. L. D. LeGear Medicine Co., St. Louis, Mo.				
Dr. LeGear's Fly Chaser	Hancock	100% active ingredients		Meets Guarantee NL.

Medford Grocery Co., Medford, Md. Medford Fly Spray for Stock	Medford	100% active ingredients	0.835	Meets Guarantee
Midway Chemical Co., Jersey City, N. J. Fly Ded Insect Spray	Annapolis	100% active ingredients	0.796	Meets Guarantee NL.
Swish Stock Spray	Oakland	100% active ingredients	0.830	Meets Guarantee NL, C.
O-Cedar Corp., Chicago, Ill. O-Cedar Moth and Fly Spray	Fruitland	100% active ingredients	0.796	Meets Guarantee NL.
Pure Oil Co., Chicago, Ill. Pure Fly and Insect Killer	Smithville	100% active ingredients	0.791	Meets Guarantee NL.
Rex Research Corp., Toledo, Ohio Stockaid Animal Spray	Cumberland	100% active ingredients	0.834	Meets Guarantee NL.
Rockland Chemical Co., Newark, N. J. Fly-Rid	Forest Hill	100% active ingredients	0.802	Meets Guarantee C.
Royal Mfg. Co., of Duquesne, Duquesne, Pa. Bugine Liquid Spray	Berlin	100% active ingredients	0.812	Meets Guarantee NL.
Simpkins Mfg. Co., Princess Anne, Md. Fly-Skeet	Princess Anne	100% active ingredients	0.804	Meets Guarantee
Simpkins Stock Spray	Princess Anne	100% active ingredients	0.800	Meets Guarantee
Sinclair Refining Co., Inc., New York, N. Y. Sinclair Stock Spray	Bel Air	100% active ingredients	0.854	Meets Guarantee
D. B. Smith and Co., Utica, N. Y. Jim Dandy Stock Spray	Salisbury	100% active ingredients	0.854	Meets Guarantee NL, C.
Solarine Co., Baltimore, Md. Matador Liquid Insecticide	Cecilton	100% active ingredients		Meets Guarantee NL.
Geo. B. Stewart, Hillsboro, Md. Stewart's Stock and Cattle Spray	Hillsboro	100% active ingredients	0.834	Meets Guarantee

FLY SPRAYS—Continued

Registrant and Brand Name	Place Sampled	Guaranteed	Specific Gravity at room temp.	Decision
Tunis Brothers Co., Kennett Square, Pa.				
Tunis Dairy Fly Spray	Centreville	100% active ingredients		Meets Guarantee NL.
United Cooperatives Inc., Indianapolis, Ind.				
Fly Spray	Bel Air	100% active ingredients	0.824	Meets Guarantee C.
United Drug Co., Boston, Mass.				
Elkay's Fly Killer	Silver Spring	100% active ingredients	0.790	Meets Guarantee NL.
The J. R. Watkins Products Co., Winona, Minn.				
Watkins Fly Spray	Frederick	100% active ingredients	0.808	Meets Guarantee NL.
Whitmoyer Laboratories, Inc., Myerstown, Pa.				
Fli-Rid	Forest Hill	100% active ingredients	0.781	Meets Guarantee

NL—Not licensed at time of sale.
B—No statement of nature of inert ingredients.
C—No guarantee on label.
E—No address on container.

The Sprays listed above were found to contain:
Oil as the base material, in the form of kerosene, petroleum or hydrocarbon distillate. Pyrethrum, Rotenone, Phenol, N-Isobutyl Undecylenamide, Terpenes, Organic Thiocyanates, Pine Oil or a combination thereof as the active principle.

DIPS AND DISINFECTANTS

Registrant and Brand Name	Place Sampled	Guaranteed and Found	Water per cent	Decision
Barker, Moore and Mein Co., Philadelphia, Pa.				
Barker's Disinfectant	Ridgely	Guaranteed	10.00	Meets
		Found	7.76	Guarantee
C & D Mfg. Co., Baltimore, Md.				
Cal-Sino Car-Nol Dip and Disinfectant	Chesapeake Cy...	Guaranteed	11.00	Meets
		Found	9.57	Gurantee NL.

The G. E. Conkey Co., Cleveland, Ohio				
Conkeys 20 to 1 Noxicide	Hancock	Guaranteed	10.00	Meets
		Found	7.67	Guarantee NL.
Dr. Hess and Clark, Inc., Ashland, Ohio				
Dr. Hess Dip and Disinfectant	Salisbury	Guaranteed	10.00	Meets
		Found	8.69	Guarantee
Geo. H. Lee Co., Omaha, Neb.				
Lee's Vapo-Spray	Bel Air	Guaranteed	.....	Meets
		Found	Trace	Guarantee
Dr. L. D. LeGear Medicine Co., St. Louis, Mo.				
Dr. LeGear's Dip and Disinfectant	Hancock	Guaranteed	9.00	Meets
		Found	9.00	Guarantee NL.
Parke, Davis and Co., Detroit,Mich.				
Kreso Dip No. 1	Silver Spring	Guaranteed	9.00	Meets
		Found	5.92	Guarantee NL, B.
Pratt Food Co., Hammond, Ind.				
Pratts Disinfectant	Gaithersburg	Guaranteed	8.00	Meets
		Found	5.42	Guarantee
Ralston Purina Co., St. Louis, Mo.				
Purina Cre-So-Fec	Easton	Guaranteed	21.00	Meets
		Found	19.60	Guarantee C.
Rockland Chemical Co., Inc., Newark, N. J.				
"Roc-Lin"	Salisbury	Guaranteed	10.00	Meets
		Found	7.84	Guarantee
Dr. Salsbury's Laboratories, Charles City, Iowa.				
Dr. Salsbury's Dip-Sal	Frederick	Guaranteed	9.60	Meets
		Found	6.90	Guarantee NL.
The Simpkins Mfg. Co., Princess Anne, Md.				
Simpkins' Disinfectant	Princess Anne	Guaranteed	10.00	Meets
		Found	9.22	Guarantee
Southern States Cooperative, Inc., Baltimore, Md.				
Southern States Quality Disinfectant and Stock Dip	Bel Air	Guaranteed	10.00	Meets
		Found	8.70	Guarantee
Southern States Quality Disinfectant and Stock Dip	Mt. Airy	Guaranteed	10.00	Meets
		Found	8.59	Guarantee

B—No chemical guarantee on label.
C—Glycerine (inert) guaranteed 3.50%. Found 1.29%.
NL—Not licensed at time of sale.

The Dips and Disinfectants reported above contained, in addition to water, active ingredients consisting of Phenols, Cresols, Soap, Petroleum and Coal Tar Oils, or combinations of these materials.

CROW REPELLENTS

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed per cent	Found per cent	Decision
Bonide Chemical Co., Inc., Utica, N. Y.					
Crow-Fez	Easton	Water		Trace	Meets
		Benzene Insoluble		4.02	Guarantee NL, A.
The Cedar Hill Formulae Co., New Britain, Conn.					
Stanley's Crow Repellent		Water		Trace	Meets
		Benzene Insoluble		2.51	Guarantee NL, A.
Cooperative G. L. F. Mills, Inc., Buffalo, N. Y.					
G. L. F. Crow Defeat	Cockeysville	Water		Trace	Meets
		Benzene Insoluble		2.75	Guarantee NL, A.
Rockland Chemical Co., Inc., Newark, N. J.					
"Kro-Rid"	Mardela Springs	Water		1.51	
		Benzene Insoluble		0.40	Meets
		Tar Acids		4.04	Guarantee A.
D. B. Smith & Co., Utica, N. Y.					
Bye Bye Blackbird	Salisbury	Water		2.07	Meets
		Benzene Insoluble		4.70	Guarantee NL, A.
Whitmoyer Laboratories, Inc., Myerstown, Pa.					
Whitmoyer Crow Repellent	Grantsville	Water	4.00	Trace	Meets
		Benzene Insoluble		0.45	Guarantee

A—No guarantee on container.

NL—Not licensed at time of sale.

MISCELLANEOUS INSECTICIDES

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed	Found per cent	Decision
Acme White Lead and Color Works, Detroit, Mich.					
Acme Emo-Nik	Baltimore	Selected Hydrocarbon Oils	80.00	80.56	
		Free Nicotine	1.50	1.42	
		Unsulfonated Residue of Oil	90.00	90.10	
		Emulsifier		0.23	
		Water		14.96	
		Specific Gravity at 25°C.		0.879	Meets Guarantee
American Cyanamid & Chemical Corp, New York, N. Y.					
Cyanogas	Reisterstown	Calcium Cyanide	42.00	45.43	Meets Guarantee
B & B Exterminator, Inc., Baltimore, Md.	Owings	Grain and Coloring Matter	98.5	98.65	B, NL, H.
Barium Reduction Corp., South Charleston, W.Va.					
Bari Cide	Hagerstown	Barium Carbonate	94.00	98.91	Meets Guarantee NL.
Barker, Moore & Mein Co., Philadelphia, Pa.					
Barker's Poultry Lice Liquid for Roosts	Medford	Nicotine		13.08	
		Water	12.00	2.46	
		Specific Gravity at 25°C.		0.948	Meets Gurantee B.
Barker's Poultry Lice Liquid for Roosts	Medford	Nicotine		12.45	
		Water	12.00	41.17	
		Specific Gravity at 25°C.		1.196	Meets Guarantee B, F.
Bayer-Semesan Co., Inc., Wilmington, Del.					
New-Improved "Ceresan"	Easton	Ethyl mercury phosphate	5.00	6.16	Meets Guarantee C.
		Mercury (as metallic)	3.80	3.98	
Bourbon Remedy Co., Lexington, Ky.					
Bourbon Mill and Warehouse Insecticide	Princess Anne	Ethylene Dichloride		52.90	
		Carbon tetrachloride		41.50	Meets Guarantee
		Residue		5.60	

MISCELLANEOUS INSECTICIDES—Continued

Registrant and Brand Name	Place Sampled	Ingredients	Guaranteed per cent	Found per cent	Decision
Carbolineum Wood Preserving Co., Milwaukee, Wis.					
Avenarius Carbolineum	Easton	Water	1.50	Trace	Meets Guarantee NL.
		Carbon	1.50	1.40	
Central Chemical Corp. of Md., Hagerstown, Md.					
Carbon Bisulphide	Frederick	Specific Gravity at 25/25°		1.257	
		Boiling Range		46-49°C	
		Residue		0.0036	NL, A, G.
Crystal Soap & Chemical Co., Inc., Philadelphia, Pa.					
C-P-O Insecticide Soap Spreader	Towson	Soap (as potassium oleate)	37.00	37.08	Meets Guarantee
Hammond Paint and Chemical Co., Inc., Beacon, N. Y.					
Hammond's Slug Shot	Baltimore	Nicotine		Present	
		Sulphur	6.00	6.63	
		Copper Sulfate	1.00	0.85	
		Copper Arsenite	1.50	1.50	
		Crude Carbolic Acid	0.40	0.45	
		Arsenic as metallic	0.785	0.822	
		Arsenic in water soluble form as metallic	Trace	0.50	
		Copper as metallic		0.87	Meets Guarantee NL.
Triad	Westminster	Ammonia	8.00	13.54	
		Copper (as metallic)	3.05	3.92	
		Nicotine	5.00	5.43	Meets Guarantee NL.
Dr. Hess & Clark, Inc., Ashland, Ohio					
	Medford	Talc	64.00	58.83	

Dr. Hess & Clark, Inc., Ashland, Ohio					
Dr. Hess Powdered Louse Killer	Medford	Talc	64.00	58.83	
		Ochre	20.00	18.91	
		Derris Residue	1.00	0.58	
		Rotenone		Present	
		Naphthalene		Present	Meets Guarantee
Heyden Chemical Corp., New York, N. Y.					
Pestex	Snow Hill	Harwood Creosote Oil	5.00		
		Ether extractive materials		3.97	Meets Guarantee I.
The Hilo Co., Springdale, Conn.					
Hilo Dip	Baltimore	Derris Resins	4.00		
		Camphor Oil	16.00	70.16	
		Pine Oil	60.00		
		Distoline (Fatty acid cotton-seed oil)	10.00	11.20	
		Triethanolamine	10.00	10.54	
		Water		8.17	Meets Guarantee
Huntington Laboratories, Inc., Huntington, Ind.					
Dr. Lobel's Mill Insecticide	St. Michaels	Pyrethrins	0.12	0.38	
		Petroleum Oil	99.88		
		Total Oil at 250°C.		93.20	
		Specific Gravity at 25°C.		0.858	Meets Guarantee NL.
Geo. H. Lee Co., Omaha, Neb.					
Lee's Lice Killer (for poultry)	Bel Air	Phenols		4.00	
		Water	6.00	Trace	Meets Guarantee
Lemon Oil Co., Baltimore, Md.					
Lemon Oil Co's Standard Insecticide	Baltimore	Dry Soap	6.00	11.41	
		Potassium Carbonate	0.50	Present	
		Oil of Cajeput	3.50		
		Terebentine	5.00		
		Total Oils		10.99	
		Water	85.00	73.20	Meets Guarantee NL.
Lethelin Products Co., Inc., Wood Ridge, N. J.					
Magikil Jelly	Baltimore	Thallium Sulphate	1.30	1.35	
		Thallium (as metallic)	1.04	1.09	Meets Guarantee
McCormick and Co., Baltimore, Md.					
Insekto Spray	Baltimore	Cocoanut Oil Soap	4.00		
		Sulphonated Cocoanut Oil	32.00	40.47	
		Fatty Acid Esters of glycols sulphated	2.50		
		Camphor Oil	5.00		
		Petroleum Distillate (unsulfonatable)	6.00	12.39	
		Pyrethrins	0.20	0.28	Meets Guarantee
		Rotenone	0.30	Present	

MISCELLANEOUS INSECTICIDES—Continued

REGISTRANT AND BRAND NAME	PLACE SAMPLED	INGREDIENTS	Guaranteed per cent	Found per cent	DECISION
McCormick and Co., Baltimore, Md.—Continued					
Bee Brand Insecticidal Shampoo	Baltimore	Cocoanut Oil Soap	20.00	20.13	
		Camphor Oil	1.75	2.28	
		Rotenone	0.18	Present	
		Derris Resins	0.72	.....	
		Pyrethrins	0.25	0.76	
		Petroleum Ether extractives of Pyrethrum	1.00	.....	
		Water	56.00	47.54	Meets Guarantee
Red Arrow Garden Spray	Baltimore	Cocoanut Oil Soap	10.00	} 30.89	
		Fatty Acid Esters of glycols sulphated	9.50		
		Sulphonated Cocoanut Oil	7.00		
		Petroleum Ether extractives of Pyrethrum	3.75		
		Pyrethrins	0.90	2.11	
		Sodium Tetradecyl sulphate	0.75	Present	
		Camphor Oil	21.00	} 28.57	
		Pine Oil	7.00		
		Rotenone	1.66	Present	Meets Guarantee
Nott Mfg. Co., New York, N. Y.					
Ant-"X" Ant Trap	Baltimore	Thallium Sulphate	1.25	1.93	Meets Guarantee NL.
Mole-Nots	Baltimore	Strychnine	0.05	Present	Meets Guarantee A, NL.
B. G. Pratt Co., Hackensack, N. J.					
Scalecide	Baltimore	Ammonium and Potassium Sulphate	Trace	0.77	
		Water	9.00	5.01	Meets Guarantee
I. D. Russell Co., Kansas City, Mo.					
Revenge Litter Spray	Annapolis	Phenol	2.00	} 16.65	
		Coal Tar Acids	13.00		
		Coal Tar Hydrocarbon Oil	44.00	39.60	
		Rosin Soap	34.00	32.61	
		Water	10.00	10.98	A, D.
Dr. Salsbury's Laboratories, Charles City, Iowa.					
	Chestertown	Petroleum Oil	5.00	7.57	

Coal Tar Acids					
Coal Tar Hydrocarbon Oil		44.00	39.60		
Rosin Soap		34.00	32.61		
Water		10.00	10.98	A, D.	
Dr. Salsbury's Laboratories, Charles City, Iowa.					
Dr. Salsbury's Louse Powder	Chestertown	Petroleum Oil	5.00	7.57	
		Ortho Hydroxybiphenyl	7.00	10.60	
		Pyrethrins	Trace	Present	Meets Guarantee NL.
Tennessee Corp., Atlanta, Ga.					
Teecee 89% Zinc Sulphate	Frederick	Zinc (as metallic)	36.00	36.07	
		Zinc Sulphate	89.00	89.09	Meets Guarantee
Whitmoyer Laboratories, Inc., Myerstown, Pa.					
Whitmoyer Formaldehyde Solution	Grantsville	Formaldehyde	37.00	37.06	
		Water and Methyl alcohol	.....	62.94	Meets Guarantee E.
Rose Mfg. Co., Philadephia, Pa.					
Fume-Ogen	Baltimore	Silica	23.16	29.34	
		Calcium Hydroxide	10.17	6.16	
		Magnesium Carbonate	0.46	5.84	
		Magnesium Hydroxide	Trace		
		Tobacco tissue other than nicotine	15.39		
		Pyrethrum Stems	15.26		
		Water	11.45	5.30	
		Nicotine	.....	0.20	
		Pyrethrins	.....	Trace	
		Naphthalene	.....	Present	
		Iron and Aluminum oxides	.....	2.33	Meets Guarantee
Mologen	Baltimore	Ricine	0.30	Present	A. Meets Guarantee NL.
G. D. Willits Co., Salladasburg, Pa.					
Willits Roost X	Hagerstown	Specific Gravity at 25°C.	.....	0.875	
		Total Oil at 300°C.	.....	91.40	
		Phenol	.....	Present	
		Water	.....	None	Meets Guarantee NL.
Willits Lice X	Hagerstown	Phenol and Creosote from wood tar	7.00	Present	
		Molecular Sulphur	6.00	Present	
		Naphthalene	3.00	Present	
		Silica	20.00	1.77	
		Calcium Oxide	53.00	47.86	
		Alumina and Ferric Oxides	9.00	0.29	
		Magnesia	2.00	1.45	Meets Guarantee NL.

A—No guarantee on label.
B—No skull and crossbones on container.
C—Ethyl mercury phosphate calculated as $C_2H_5Hg_9OP(OH)_2$.
D—Deficient; contains excess water, low in rosin soap and hydrocarbon oils.
E—No skull and crossbones or antidote on label.
F—Contains excess water.
G—Meets U. S. P. specifications.
I—Guarantee on label differs from license.
NL—Not licensed at time of sale.
H—Deficient in active ingredients.